

Appn. Number 10/653,678 Michael John Keogh Nguyen/2831 Amnt. F  
Summary Review of Telephone Discussion of September 26.

Application No. 10/653,678

Representing PTO C.N. Nguyen

Representing Applicant Dr. M. J. Keogh

Examiner stated that the objection to subject matter in claims 38,40 and 45 along the lines of 37 CFR 1.75(d)(1) and MPEP 608.01(0) was missed previously. Examiner stated correction may be made by simply adding the detail required in the specification. This has been done (see attached spec. corrections)

Major discussion centered on amended claim 36 in Amendment E May 16, 2006

Claims Rejections- 35 U.S.C. 112

Claims 36, 43, 46 and 49 were rejected because they were deemed to contain new matter. Examiner states that changing claim 36 from describing the outer layer as containing "a polypropylene or polypropylene copolymer as the base resin" to "homopolymer or a copolymer of propylene and one or more alpha olefins having 4-12 carbon atoms (as the base resin) wherein the portion of the copolymer based on propylene is at least 60 percent by weight based on the weight of the copolymer" represents new matter. Applicant held that the change was simply a narrowing of the claim. The original claim citing a polypropylene copolymer covered the newly described copolymer. Applicant did not understand how narrowing, that is removing certain polypropylene copolymers, was considered to be adding new matter.

Examiner offered an example to illustrate her position: take a claim that recites "contains a metal conductor." Then in a narrowing claim claims "contains a copper conductor." That represents new matter. Applicant understood the analogy but still doesn't see the position.

Applicant is withdrawing the amended Claims 36 and 43 and resubmitting them in their original form. The change had been made to help clarify a position. It was not out of any necessity.

Rejection of Claim 46

Applicant believes the specification contains sufficient information to support the claim. Specifically the specification in [0014], [0017] [0020] and [0023] describes in qualitative and quantitative language the specific thicknesses of the outer layer sufficiently for one skilled in the art to understand the process.

Rejection of Claim 49

The claim recites an optimum level of the neutralizing filler to be contained in an inner layer. The detailed discussion on the functioning of the inner layer, layer 22, in the specification [0058] presents detailed information as to provide any person skilled in the art the best mode for carrying out the invention. Claim 49 is stating a range of operation.

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Rejection of Claims 35-39, 42-46 and 50 and 51

Under U. S. C. 103(a)

Examiner in rejecting claims 35-39, 42-46 and 50 and 51 cites Bisleri et al. in view of Weil et al. Examiner states that Bisleri et al. discloses a dual layer thermoplastic polymer-based non-halogen protective sheath consisting of an outer layer of solid organo non-foamed thermoplastic polymer layer as means for providing thermal, physical and mechanical protection and an inner solid, non-foamed thermoplastic polymer layer as a means for providing a layer of fire protection. This is not at all what Bisleri et al. discloses. Bisleri et al. is lacking disclosure in all the key features attributed to it by the examiner.

Below applicant presents a clear comparison of what is actually disclosed in Bisleri et al. relative to the composition(components) in each of his layers with that of applicant's disclosure. Following this, applicant addresses the significant differences that also exist in the respective cable constructions.

--Inner Layer- Bisleri et al. discloses that the function of his inner layer is to provide for insulating properties and to protect the cable against electrical breakdown from water. To this end he formulates with a resin that will not contain halogen. Bisleri et al. references WO 99/05688 as a teaching for a flame retardant insulating system containing magnesium hydroxide [0006] and [0011 and 0012]. Bisleri clearly states that this Mg[OH] insulating layer brakes down electrically in the presence of water. Hence, Bisleri et al. avoids adding FR additive, specifically magnesium hyroxide, to his inner resin layer in order to retain the protection against water. He choses to flame retard his construction with his outer layer.

In sharp contrast to Bisleri et al. applicant flame retards his inner thermoplastic layer using magnesium hydroxide in the dual layer sheath (claim 35) and again in the insulated wire construction (claim 43).

Clearly applicant and Bisleri et al. differ substantially in composition and function relative to their inner layers.

--Outer Layer- Examiner discloses that Bisleri et al. does not provide for an intumescent outer layer, that is, his outer layer does not contain any intumescent agents. Examiner cites Weil et al. as offering a fire retardant system based on intumescent materials suitable for use as wire insulation and cable jacket. Examiner suggests that one skilled in the art would employ the intumescent material as taught by Weil et al. to improve the flame retardance of the Bisleri wire. For technical reasons this suggestion is not possible.

Firstly, as discussed fully in applicant's specification [0055] the phosphorus based intumescent materials can not be combined with the Bisleri et al.'s metal hydrate FR system. Combined within the same layer the systems act antagonistically and all flame retardance is lost. The technologies applied in the manner suggested will not provide for improvement but rather will totally destroy the flame resistance that was present.

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It is noted that the solution to the incompatibility (antagonism) of the metal hydrate-phosphorus intumescent system rests in applicants dual layer invention.

A comment relative to examiner's citing Weil et al. for application as an insulating material. Applicant in his specification [0058] and again several times in amendments filed for this application has discussed in detail how phosphorus based intumescent materials function. Applicant detailed that these systems are particularly susceptible to hydrolysis producing strong acid. These acids are extremely corrosive to wire conductors. Hence the system of Weil et al. cannot be employed as a wire insulating system.

Finally, Weil et al. cite their compositions for flame retardance but do not teach their possible thermal insulating properties. Applicant is focused on intumescence for the novel thermal insulating properties rather than flame retardance. Applicant employs the intumescent system to provide thermal protection to the inner layer in order to maximize the overall control of combustion and flame spread for the total system. This concept and the systems approach has not been previously addressed by any of those skilled in the art.

Based on the facts presented above one must conclude that Bisleri et al.'s. inner and outer wire layers cannot be modified to function as a useful construction. It is not possible to modify Bisleri et al. for a plenum, riser or automotive application.

---Bisleri et al. Cable (Wire) Construction - Examiner suggests that even though Bisleri et al. does not disclose the use of his dual layer construction over an insulated (covered) wire one skilled in the art would see this as a logical possibility( claim 35 dual layer cable sheath).

Applicant does not believe this approach would be valid. Bisleri et al. in [0011] states a sensitivity to any increased thickness in insulation covering. A second layer of an insulating covering, that would surely increase overall thickness, would compromise his flame resistance. Moreover while examiner states that plural layers of insulation in constructions are known, applicant questions whether one skilled in the art would take this approach. If better insulation properties are required artful researchers either increase the thickness of the insulating layer or if this is not possible, as in the present case, they will choose a better insulating material. Extruding a second layer to provide a single property, such as insulation, is a costly, inefficient and questionable approach.

The totality of the arguments presented above establish the patentability of claims 35-39, 42-46 and 50 and 51.

#### Rejection of Claims 47-49 Under 35 U.S.C. 103(a)

Claims 47-49 were rejected as unpatentable over Bisleri et al. in view of Weil et al. and Kim et al.

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Bisleri et al. teaches that it is necessary to exclude the fire retardant additive of Kim et al., magnesium hydroxide, from his inner insulating layer in order to protect against electrical breakdown (see earlier discussion on inner layer). As such no consideration could be given to employ Kim et al. in Bisleri et al. Bisleri et al. teaches away from this approach. Conductor corrosion is a long standing problem in wire insulation. Prior to applicants dual layer approach it has not been solved. Conductor corrosion when it has occurred has been handled by abandoning the approach causing the corrosion and seeking an alternative technology. Applicant's solution is novel, inventive and would never be considered as obvious.

Admittedly Kim et al. does contain MgOH in his inner layer. It is there solely for flame resistance. He shows absolutely no awareness that this flame retardant additive could function to provide corrosion prevention. Moreover, Kim et al. specifically addresses phosphorus additives when discussing his outer layer composition. In the discussion of flame retardants for application in the preferred resins in his outer layer, Kim et al. references US 6,239,219. Therein (col.1, line 40-45) phosphorus additives are recognized as undesirable for application. Hence, they would not see application in Kim et al. (that is Weil et al. is excluded) In Bisleri et al., Weil et al. is also excluded because of the antagonism discussed previously. Conductor corrosion is moot in all cases. The source for corrosion would be absent. None of the references mention corrosion. It is not a part of Weil et al., Bisleri et al. or Kim et al. The general conditions of the claims are not disclosed in the prior art and Aller, 105 USPQ 233 would not apply.

#### **Conditional Request for Constructive Assistance**

Applicant has amended the claims of this application so that they are proper, definite, and define novel and unobvious matter. If, for any reason this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very Respectfully,



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Certificate of Mailing: I certify that this correspondence, and attachment, if any, will deposited with the United States Postal Service by first class mail, postage paid, in an envelope addressed to , Commissioner for Patents, P. O. Box 1450, Alexandria, Va 22313-1450 on the date below.

Date: October 19, 2006

Inventor's Signature :

A handwritten signature in black ink, appearing to read "Michael J. Keogh Nguyen", written over a horizontal line.